

serratus, *C. Jacobinus*, *Merops apiaster*, *Geocolaptes olivaceus*, *Cinnyris amethystinus*, *Chera progne* (set of 4), *Laniarius gutturalis*, *Pyromelana autra*, *Poliospiza gularis*, *Hyphantornis xanthops*, and *Scopus umbretta*; 20 species of reptiles, including 8 Ophidians, 8 Saurians, and 4 Batrachians; and 30 species of butterflies, including *Danaüs chrysippus*, *Meneris tulbaghia*, *Parameis cardui*, *Diadema missipus*, *Lycæna bætica*, *Hypolycæna lara*, *Herpæna eripha*, all from South Africa. By Mr. C. French, jun.—Eggs of White-bellied Graculus and Smaller Rufous-breasted Thrush from North Queensland, and egg of Crested Wedge-bill from Central Australia. By Mr. R. Hall.—Various stages of the following birds:—*Oceanites oceanicus*, *Majaqueus æquinoctialis*, *Oestrelata Lessoni*, *Ossifraga gigantea*, *Daption Capensis*, and *Phoebetria fuliginosa*. By Mr. J. A. Kershaw.—Egg of *Misocalius palliolatus*, Lath., Black-eared Cuckoo, taken from the nest of *Xerophila leucopsis*, Gould, in the Wimmera. By Mr. D. M'Alpine.—10 species of fungi from Kerguelen Island. By Mr. F. M. Reader.—3 Victorian mosses new to science (with descriptions for publication by Professor C. Mueller). By Mr. F. P. Spry.—Upper Silurian fossils from Yarra improvements.

After the usual conversazione the meeting terminated.

ON THE LIFE-HISTORY OF *XENICA ACHANTA*, DON.

By J. F. H. HAASE.

(Read before the Field Naturalists' Club of Victoria, 14th March, 1898.)

ALTHOUGH a familiar butterfly, I am not aware that any previous record has been made of the earlier stages of *Xenica achanta*, Don.

Ova.—The eggs are deposited on grass in patches of two or three, side by side. In shape slightly elongated, one end depressed; colour, dirty white. When viewed under a magnifying glass they are pretty objects, being beautifully ribbed and glistening.

The eggs under notice were deposited on 4th March by a captive female. On the twentieth day the head and body of the young larva could be distinctly seen by a powerful glass coiled round the inside of egg. This was more noticeable just before emergence. On the twenty-fifth day (29th March) the young larva emerged. It was very interesting and amusing to watch its endeavours to escape. Whether the larva eats its way out, or by moving the head breaks the shell, I cannot say. When the head is free it begins at once to have the first meal by eating about half the shell, and sometimes completely devouring it, then, as if refreshed, prepares to leave. First the little creature raises the head, and lifting the front legs drags itself clear, but not always

is it successful, for some were noticed with the remnants of shell clinging to the fine hairs of the back. The whole operation takes from three-quarters to one and a half hours.

Larvæ.—In the young stage the larva is of a dirty white colour, the head black, being much larger than the second segment. The head and body are covered slightly with very fine silky hairs. After the second moult the caterpillar is grass green in colour, the surface rough, with a darker dorsal line, straight sub-dorsal line, and side line. Head large, with two small crimson-chocolate horns at either side, with two patches on face, head edged with same colour. Anal segment with two straight greenish projections. These markings remained the same throughout all the larval stages of those I reared, there being no tendency to vary, as is the case of other members of this family. The larval stage lasts nearly eight months. Emerged from egg on the 4th of March they did not turn until 16th November. Size, when full fed, 12 lines.

Habits.—Perhaps a few notes on their habits may be interesting. The caterpillars are very sluggish in their movements, keeping close to the roots during the day. At night they crawl to the top of the grass and feed freely, but when approached with a light leave off at once and become motionless.

When touched the caterpillar curls the head under the body, and if continued rolls up into a ball and drops, remaining motionless for some time. While resting the caterpillars are very difficult to detect, adapting themselves so closely to their surroundings that it requires close inspection to see them. When full fed the larva spins a silken cushion to the under side of the leaf, then, attaching itself by the tail, throws off the outer skin. The caterpillar takes about two days to change to the pupa stage.

Chrysalis.—Size six lines, suspended from food plant. Head truncate; colour grass green, with a white line round abdomen and the borders of wing cases, and having a double row of white spots along abdomen and thorax. A few days before emergence the chrysalis turned a dull green, the wing cases becoming a light brown. In appearance the chrysalis very much resembles *X. Kluggii*, the only difference being the white line around abdomen and thorax, which in *X. Kluggii* is a yellow, black-edged line. Chrysalis inactive, the butterfly appearing about a fortnight later.

THE SAN JOSE SCALE.—The Victorian Department of Agriculture has recently issued an illustrated pamphlet dealing with this terrible enemy to the gardener and fruit-grower. As Mr. French says, "this pest must be tackled with a will, at once, and continuously." Any reader suspecting the presence of this insect in his garden should obtain a copy of the pamphlet and follow the directions given therein.